



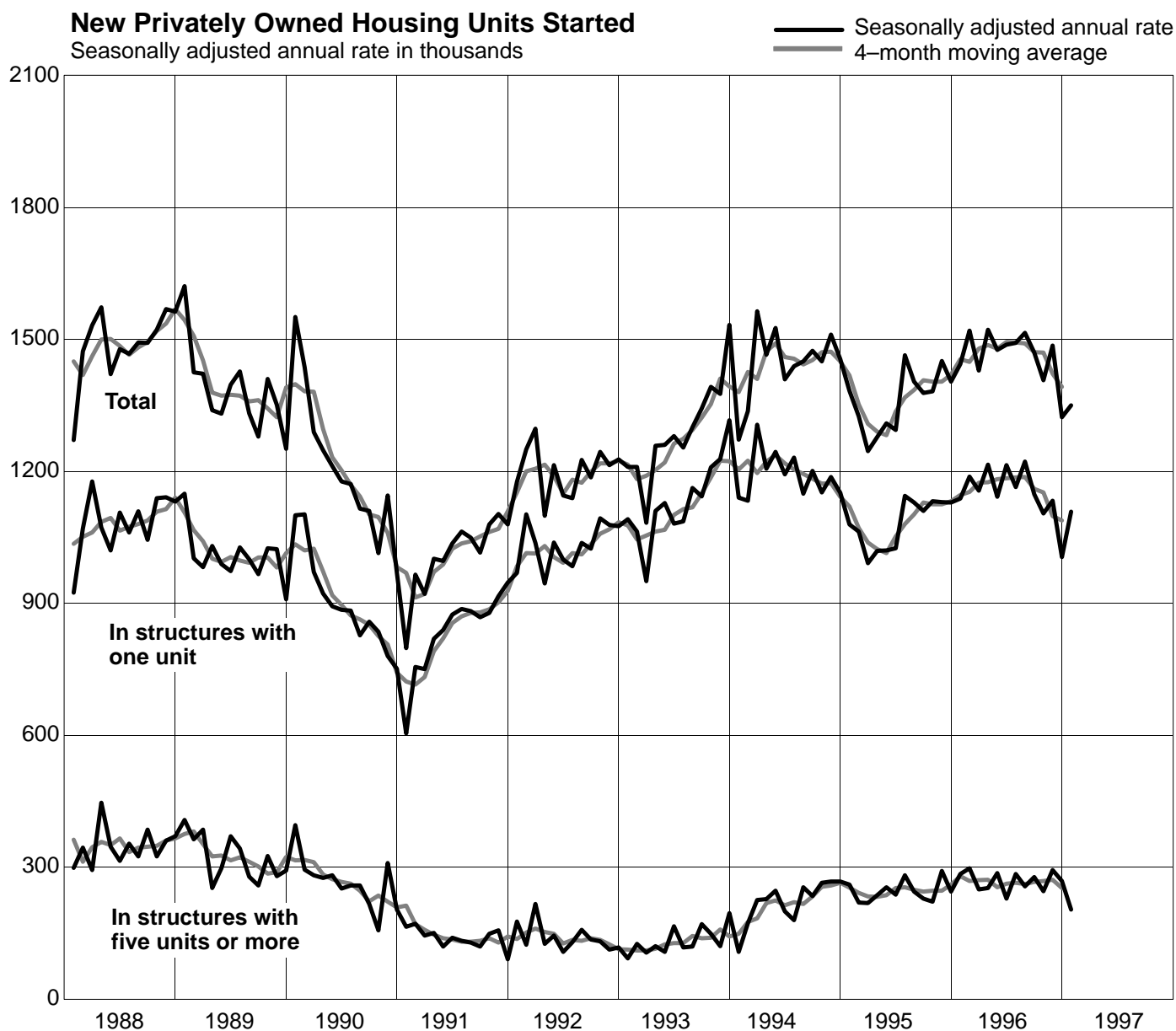
# Housing Starts

JANUARY 1997

U.S. Department of Commerce  
Economics and Statistics Administration  
BUREAU OF THE CENSUS

C20/97-1  
Issued February 1997

This issue contains revised seasonally adjusted annual rates for 1994 through 1996 for new privately owned housing units started (see table 1). Seasonally adjusted estimates of manufacturers' shipments of mobile homes for January 1994 through November 1996 have also been revised (see table 5).



Note: Total includes units started in structures with two to four units.

Source: U.S. Bureau of the Census, Housing Starts.

Questions regarding these data may be directed to Erica Filipek, Residential Construction Branch, Telephone 301-457-4703.

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## HOUSING STARTS AND BUILDING PERMITS

Privately owned housing starts in January were at a seasonally adjusted annual rate of 1,350,000. This is 2 ( $\pm 7$ ) percent above the revised December rate of 1,323,000, but 7 ( $\pm 6$ ) percent below the revised January 1996 figure of 1,444,000.

Single-family housing starts in January 1997 were at a rate of 1,108,000; this is 10 ( $\pm 7$ ) percent above the December figure of 1,005,000. The January rate for units in buildings with five units or more was 203,000; this is 24 percent below the December estimate of 268,000. The January rate for units in buildings with two to four units was 39,000.

New privately owned housing construction was authorized in January in the 19,000 permit-issuing places at a seasonally adjusted annual rate of 1,395,000 units; this is 2 ( $\pm 2$ ) percent below the revised December rate of 1,422,000, but 1 ( $\pm 2$ ) percent above the January 1996 rate of 1,378,000.

Single-family authorizations in January 1997 were at a rate of 1,054,000; this is 4 ( $\pm 1$ ) percent above the December figure of 1,015,000. Authorizations of units in buildings with five units or more were at a rate of 280,000; this is 18 percent below the December estimate of 343,000. The January rate of permit-authorized units in buildings with two to four units was 61,000.

In interpreting changes in housing starts and building permits, note that month-to-month changes in seasonally adjusted statistics often show movements which may be irregular. It may take 3 months to establish an underlying trend for total starts and total building permit authorizations.

The statistics in this report are estimated from sample surveys and are subject to sampling variability as well as nonsampling error including bias and variance from response, nonreporting, and undercoverage. Estimated average relative standard errors of preliminary data are shown in the tables. Whenever a statement such as "2 ( $\pm 3$ ) percent above" appears in the text, this indicates the range (-1 to +5 percent) in which the actual percent change is likely to have occurred. All ranges given for percent changes are 90-percent confidence intervals. If a range contains zero, it is uncertain whether there was an increase or decrease; that is, the change is not statistically significant. For any comparison cited without a confidence interval, the change is statistically significant. The appendix to this report includes explanations of confidence intervals and sampling variability. On average, the preliminary seasonally adjusted estimates of total housing starts and building permits are revised about  $\pm 1$  percent.

Housing starts and building permits data do not include mobile home units. Mobile home statistics are shown in table 5.

## HISTORICAL DATA

Historical data on housing starts and residential permit authorizations are available from Residential Construction Branch, Manufacturing and Construction Division, Bureau of the Census, Washington, DC 20233. Telephone 301-457-4703.

A list of tables and special supplements is shown below:

Title	C20 issues				
New privately owned housing units started, by purpose of construction (quarterly and annual data).....	97-1	96-10	96-7	96-4	96-1
Total time from start of construction to completion of private residential buildings (annual data) .....	96-3	95-3	94-3	93-3	92-3
Total time from authorization of construction to start for private residential buildings (annual data) .....	96-3	95-3	94-3	93-3	92-3
New privately owned housing units, by intended use and design at time of start (annual data) .....	96-2	95-2	94-2	93-2	92-2
New mobile homes (quarterly and annual data) .....	96-12	96-9	96-7	96-6	96-4

Table 1. **New Privately Owned Housing Units Started**

[Thousands of units. Detail may not add to total because of rounding]

Period	Total	In structures with—				Inside MSA's <sup>1</sup>	Outside MSA's <sup>1</sup>	North-east	Midwest	South	West
		1 unit	2 units	3 and 4 units	5 units or more						
<b>ANNUAL DATA</b>											
1987	1,620.5	1,146.4	27.8	37.5	408.7	1,372.2	248.2	269.0	297.9	633.9	419.8
1988	1,488.1	1,081.3	23.4	35.4	348.0	1,243.0	245.1	235.3	274.0	574.9	403.9
1989	1,376.1	1,003.3	19.9	35.3	317.6	1,128.1	248.0	178.5	265.8	536.2	395.7
1990	1,192.7	894.8	16.1	21.4	260.4	946.9	245.7	131.3	253.2	479.3	328.9
1991	1,013.9	840.4	15.5	20.1	137.9	789.2	224.7	112.9	233.0	414.1	254.0
1992	1,199.7	1,029.9	12.4	18.3	139.0	931.5	268.2	126.7	287.8	496.9	288.3
1993	1,287.6	1,125.7	11.1	18.3	132.6	1,031.9	255.8	126.5	297.7	561.8	301.7
1994	1,457.0	1,198.4	14.8	20.2	223.5	1,183.1	273.9	138.2	328.9	639.1	350.8
1995	1,354.1	1,076.2	14.3	19.4	244.1	1,106.4	247.6	117.7	290.1	615.0	331.3
1996 <sup>f</sup>	1,474.7	1,159.8	16.4	28.8	269.6	1,209.7	265.0	131.5	321.3	660.9	360.9
<b>MONTHLY DATA</b>											
<b>Not Seasonally Adjusted</b>											
1996:											
January	90.7	68.9	0.3	0.8	20.6	77.5	13.1	5.0	14.7	43.8	27.2
February	95.9	74.2	0.9	1.1	19.7	83.0	13.0	6.1	13.8	46.9	29.0
March	116.0	96.9	1.0	1.0	17.1	92.9	23.1	10.0	24.0	54.5	27.4
April	146.6	117.9	2.0	3.4	23.3	121.1	25.4	13.1	31.8	64.3	37.3
May	143.9	111.6	1.6	3.0	27.7	117.3	26.5	12.6	33.6	65.2	32.5
June	138.0	115.0	1.6	3.3	18.2	109.7	28.2	13.4	30.9	58.6	35.1
July	137.5	109.1	1.2	3.1	24.2	110.7	26.8	12.3	34.9	59.2	31.1
August	144.2	115.6	1.2	2.0	25.4	117.5	26.7	12.9	35.3	59.2	36.7
September	128.7	99.3	1.9	1.9	25.6	104.0	24.7	13.0	28.6	57.6	29.5
October	130.8	101.0	2.1	2.9	24.8	106.5	24.3	13.9	29.8	54.0	33.0
November <sup>f</sup>	111.5	82.6	1.6	4.3	23.0	93.1	18.4	10.1	26.6	51.0	23.9
December <sup>f</sup>	90.9	67.8	1.1	1.9	20.2	76.3	14.6	9.1	17.2	46.5	18.1
1997:											
January <sup>p</sup>	81.3	66.2	0.7	1.1	13.3	71.6	9.8	8.0	10.4	39.6	23.3
<b>Seasonally Adjusted Annual Rate</b>											
1994: <sup>f</sup>											
January	1,272	1,140	25		107	(NA)	(NA)	100	250	563	359
February	1,337	1,133	32		172	(NA)	(NA)	130	275	606	326
March	1,564	1,306	33		225	(NA)	(NA)	128	362	672	402
April	1,465	1,206	32		227	(NA)	(NA)	153	359	615	338
May	1,526	1,244	36		246	(NA)	(NA)	137	340	702	347
June	1,409	1,193	17		199	(NA)	(NA)	140	317	622	330
July	1,439	1,231	29		179	(NA)	(NA)	134	332	594	379
August	1,450	1,149	47		254	(NA)	(NA)	149	307	680	314
September	1,474	1,201	39		234	(NA)	(NA)	131	327	645	371
October	1,450	1,152	34		264	(NA)	(NA)	124	320	654	352
November	1,511	1,187	57		267	(NA)	(NA)	176	362	634	339
December	1,455	1,151	37		267	(NA)	(NA)	137	327	643	348
1995: <sup>f</sup>											
January	1,383	1,079	44		260	(NA)	(NA)	128	274	647	334
February	1,325	1,063	43		219	(NA)	(NA)	129	290	568	338
March	1,246	991	37		218	(NA)	(NA)	131	271	556	288
April	1,278	1,019	23		236	(NA)	(NA)	106	278	582	312
May	1,309	1,020	35		254	(NA)	(NA)	130	259	577	343
June	1,294	1,025	32		237	(NA)	(NA)	122	293	564	315
July	1,464	1,144	39		281	(NA)	(NA)	115	282	728	339
August	1,404	1,129	31		244	(NA)	(NA)	120	317	632	335
September	1,378	1,110	40		228	(NA)	(NA)	111	305	601	361
October	1,382	1,132	29		221	(NA)	(NA)	122	290	621	349
November	1,451	1,130	30		291	(NA)	(NA)	109	317	694	331
December	1,404	1,129	31		244	(NA)	(NA)	98	307	652	347
1996: <sup>f</sup>											
January	1,444	1,138	22		284	(NA)	(NA)	100	329	621	394
February	1,520	1,188	35		297	(NA)	(NA)	130	317	655	418
March	1,429	1,156	24		249	(NA)	(NA)	139	322	631	337
April	1,522	1,215	55		252	(NA)	(NA)	138	325	665	394
May	1,476	1,142	48		286	(NA)	(NA)	128	322	680	346
June	1,488	1,214	46		228	(NA)	(NA)	126	300	686	376
July	1,492	1,164	44		284	(NA)	(NA)	129	355	670	338
August	1,515	1,222	37		256	(NA)	(NA)	131	337	671	376
September	1,470	1,148	45		277	(NA)	(NA)	140	309	682	339
October	1,407	1,104	58		245	(NA)	(NA)	138	287	617	365
November	1,486	1,133	60		293	(NA)	(NA)	128	330	672	356
December	1,323	1,005	50		268	(NA)	(NA)	135	295	628	265
1997:											
January <sup>p</sup>	1,350	1,108	39		203	(NA)	(NA)	165	256	585	344
<b>AVERAGE RELATIVE STANDARD ERRORS<sup>2</sup></b>											
Annual	(percent)	1	7	8	2	1	3	1	2	2	1
Monthly	(percent)	3	10	19	11	3	7	6	7	5	5

NA Not available. <sup>p</sup>Preliminary. <sup>f</sup>Revised.<sup>1</sup>Metropolitan statistical areas.<sup>2</sup>Average Relative Standard Errors (Avg. RSE): Annual—Avg. RSE for the last 2 years; Monthly—Avg. RSE for the latest 6-month period (January through June or July through December).

**Table 2. New Privately Owned Housing Units Authorized in Permit-Issuing Places**

[Thousands of units. Detail may not add to total because of rounding]

Period	United States							Northeast			Midwest			South			West		
	Total	In structures with—				Inside MSA's <sup>1</sup>	Outside MSA's <sup>1</sup>	Total	In structures with—		Total	In structures with—		Total	In structures with—		Total	In structures with—	
		1 unit	2 units	3 and 4 units	5 units or more				1 unit	2 units or more		1 unit	2 units or more		1 unit	2 units or more		1 unit	2 units or more
<b>ANNUAL DATA</b>																			
<b>17,000-Place Series</b>																			
1992	1,094.9	910.7	23.3	22.5	138.4	888.5	206.5	124.8	108.5	16.3	259.0	204.4	54.6	442.5	382.2	60.2	268.6	215.6	53.0
1993	1,199.1	986.5	26.7	25.6	160.2	1,009.0	190.1	133.5	113.7	19.8	276.6	218.4	58.3	500.7	419.5	81.2	288.2	235.0	53.2
<b>19,000-Place Series</b>																			
1994	1,371.6	1,068.5	31.4	30.8	241.0	1,144.1	227.5	138.5	119.1	19.4	305.2	233.6	71.6	585.5	453.0	132.5	342.4	262.8	79.7
1995	1,332.5	997.3	32.2	31.5	271.5	1,116.8	215.8	124.2	104.5	19.7	296.6	220.5	76.1	583.2	430.3	152.9	328.5	241.9	86.5
1996 <sup>2</sup>	1,433.7	1,073.3	33.2	32.9	294.2	1,199.7	233.9	138.5	108.3	30.2	318.9	235.3	83.6	626.5	471.7	154.7	349.9	258.0	91.9
<b>MONTHLY DATA</b>																			
<b>Not Seasonally Adjusted</b>																			
1994:																			
January	80.7	63.4	1.8	2.0	13.4	68.6	12.1	5.0	4.5	0.5	12.2	9.6	2.6	40.6	31.7	8.9	22.8	17.6	5.2
February	81.7	69.2	1.5	2.1	8.9	70.0	11.7	5.3	4.8	0.6	13.9	11.6	2.2	40.0	34.2	5.9	22.5	18.6	3.9
March	126.4	104.0	2.9	2.7	16.8	106.8	19.5	10.3	8.8	1.5	27.1	22.6	4.6	56.4	46.0	10.4	32.5	26.7	5.9
April	127.6	102.0	2.9	2.7	20.0	105.8	21.8	12.6	11.0	1.5	29.6	24.2	5.3	54.4	42.2	12.2	31.1	24.5	6.6
May	131.4	107.7	3.0	3.0	17.8	107.9	23.4	14.3	12.8	1.5	32.8	25.7	7.1	52.9	43.2	9.7	31.4	25.9	5.4
June	138.8	109.2	3.0	3.0	23.5	114.8	24.0	15.6	13.3	2.3	31.6	25.4	6.2	54.6	43.4	11.2	37.0	27.1	9.9
July	114.8	90.9	2.4	2.4	19.1	94.4	20.4	14.7	12.8	2.0	27.3	21.2	6.0	46.2	35.9	10.3	26.6	21.0	5.6
August	131.5	100.9	2.9	2.8	24.9	108.9	22.7	14.2	11.9	2.3	30.7	22.8	8.0	54.1	42.1	12.0	32.5	24.2	8.3
September	127.2	91.5	2.7	2.6	30.3	106.5	20.7	12.3	10.5	1.7	28.3	20.8	7.5	54.3	38.2	16.2	32.2	22.0	10.2
October	117.0	85.9	3.1	3.1	24.9	96.4	20.5	11.9	10.2	1.7	29.9	20.1	9.8	46.0	34.3	11.8	29.2	21.3	7.9
November	100.5	74.8	3.1	2.3	20.3	85.0	15.5	11.5	9.8	1.7	23.0	16.8	6.2	43.4	31.0	12.4	22.6	17.2	5.4
December	94.2	68.9	2.1	2.1	21.0	78.9	15.3	10.8	8.7	2.1	18.8	12.8	6.0	42.6	30.9	11.6	22.0	16.5	5.5
1995:																			
January	78.0	58.2	1.8	2.0	16.1	67.3	10.7	7.4	6.2	1.2	12.3	8.6	3.7	40.1	29.1	11.0	18.3	14.3	4.0
February	80.4	59.8	2.0	1.3	17.3	69.4	11.1	5.6	4.7	0.9	13.7	10.4	3.3	38.7	28.9	9.8	22.5	15.8	6.6
March	111.5	85.1	3.0	2.9	20.5	93.6	17.9	10.5	8.8	1.7	23.8	18.5	5.3	52.7	39.1	13.6	24.5	18.8	5.8
April	109.7	83.1	2.8	2.5	21.3	90.5	19.3	11.4	9.5	1.9	25.2	19.4	5.8	46.6	34.9	11.7	26.5	19.3	7.2
May	122.8	95.9	3.3	2.6	21.1	101.4	21.4	12.4	11.0	1.4	29.3	22.7	6.6	51.0	39.1	11.9	30.1	23.1	7.0
June	129.3	97.4	3.2	3.4	25.3	106.6	22.8	12.4	10.6	1.9	29.7	23.1	6.6	53.3	39.7	13.7	33.9	24.1	9.8
July	115.6	88.3	2.3	2.4	22.5	95.2	20.4	10.7	9.4	1.2	27.3	20.9	6.4	48.4	36.9	11.6	29.2	21.1	8.2
August	133.5	101.4	3.1	3.0	26.1	111.4	22.1	12.3	10.6	1.7	31.9	23.5	8.3	55.9	42.1	13.8	33.5	25.2	8.3
September	124.1	90.1	3.0	3.0	28.1	104.1	20.0	11.2	9.4	1.8	28.9	20.5	8.4	55.0	39.4	15.5	29.1	20.8	8.3
October	122.2	90.8	3.1	3.3	25.0	101.4	20.8	11.9	9.8	2.1	31.9	22.1	9.8	51.5	37.7	13.7	27.0	21.2	5.8
November	107.8	78.4	2.9	3.1	23.5	90.9	17.0	10.5	8.0	2.5	24.9	18.2	6.7	46.3	33.3	13.0	26.2	18.9	7.3
December	97.4	68.8	1.9	2.0	24.7	85.0	12.4	8.0	6.6	1.4	17.8	12.5	5.2	43.8	30.1	13.7	27.8	19.5	8.4
1996:																			
January	87.3	65.5	2.1	1.9	17.8	75.8	11.4	5.5	4.4	1.1	14.0	10.1	3.9	44.2	33.7	10.4	23.5	17.2	6.3
February	94.9	73.6	2.1	1.8	17.4	82.4	12.5	6.0	5.3	0.7	16.8	13.5	3.3	46.0	37.0	9.0	26.1	17.9	8.2
March	119.9	95.1	2.6	2.4	19.6	100.1	19.8	10.5	8.4	2.1	26.4	20.0	6.4	51.6	43.3	8.3	31.3	23.4	8.0
April	139.4	109.4	3.7	3.4	23.0	114.7	24.7	12.9	10.6	2.3	34.0	26.4	7.6	60.3	47.2	13.1	32.2	25.2	6.9
May	140.5	109.7	3.0	2.9	24.9	115.8	24.7	14.3	11.6	2.7	32.2	26.1	6.1	62.1	46.6	15.5	31.9	25.4	6.5
June	130.6	100.7	2.9	3.0	24.0	107.4	23.2	13.1	10.4	2.6	28.7	22.9	5.9	55.0	42.7	12.3	33.8	24.7	9.1
July	135.7	101.4	3.0	2.9	28.4	110.8	24.9	13.5	10.9	2.6	33.5	24.4	9.2	54.7	41.9	12.7	34.0	24.2	9.7
August	129.8	98.4	2.9	2.5	26.0	108.2	21.6	14.0	10.3	3.7	30.9	22.7	8.2	55.2	41.8	13.5	29.7	23.7	6.0
September	121.0	86.0	3.1	3.1	28.8	100.3	20.8	11.9	9.4	2.5	27.9	19.9	8.0	52.0	35.8	16.2	29.3	20.9	8.4
October	126.0	91.8	3.2	3.9	27.2	105.2	20.8	13.8	9.8	4.0	31.1	21.6	9.4	50.8	38.7	12.1	30.3	21.7	8.7
November	101.7	71.6	2.6	2.7	24.8	86.2	15.5	10.8	8.1	2.7	23.3	15.2	8.1	45.3	31.8	13.5	22.3	16.4	5.8
December <sup>3</sup>	99.9	66.3	2.0	2.1	29.6	85.7	14.3	9.8	6.9	2.8	19.1	12.0	7.1	47.3	31.1	16.2	23.8	16.3	7.5
1997:																			
January <sup>4</sup>	88.4	66.1	2.0	1.7	18.6	77.5	11.0	8.1	6.1	2.1	13.1	9.3	3.8	43.5	33.9	9.6	23.8	16.9	6.9

See footnotes at end of table.

**Table 2. New Privately Owned Housing Units Authorized in Permit-Issuing Places—Con.**

[Thousands of units. Detail may not add to total because of rounding]

Period	United States						Northeast			Midwest			South			West			
	Total	In structures with—				Inside MSA's <sup>1</sup>	Outside MSA's <sup>1</sup>	Total	In structures with—		Total	In structures with—		Total	In structures with—		Total	In structures with—	
		1 unit	2 units	3 and 4 units	5 units or more				1 unit	2 units or more		1 unit	2 units or more		1 unit	2 units or more		1 unit	2 units or more
<b>MONTHLY DATA—Con.</b>																			
<b>Seasonally Adjusted Annual Rate</b>																			
1994:	January	1,390	1,112	68	210	(NA)	(NA)	102	99	3	298	246	52	599	472	127	391	295	96
	February	1,269	1,065	56	148	(NA)	(NA)	112	98	14	278	227	51	545	466	79	334	274	60
	March	1,342	1,078	61	203	(NA)	(NA)	121	103	18	305	243	62	576	460	116	340	272	68
	April	1,392	1,084	62	246	(NA)	(NA)	135	117	18	306	237	69	600	462	138	351	268	83
	May	1,396	1,110	66	220	(NA)	(NA)	143	124	19	315	240	75	592	471	121	346	275	71
	June	1,357	1,067	58	232	(NA)	(NA)	146	126	20	301	232	69	565	450	115	345	259	86
	July	1,335	1,041	60	234	(NA)	(NA)	161	137	24	300	228	72	567	429	138	307	247	60
	August	1,377	1,054	60	263	(NA)	(NA)	143	121	22	303	225	78	589	452	137	342	256	86
	September	1,412	1,056	60	296	(NA)	(NA)	135	118	17	295	228	67	608	450	158	374	260	114
	October	1,397	1,042	68	287	(NA)	(NA)	131	113	18	318	226	92	591	438	153	357	265	92
	November	1,340	1,014	66	260	(NA)	(NA)	137	119	18	298	229	69	590	426	164	315	240	75
	December	1,396	1,086	62	248	(NA)	(NA)	167	129	38	323	246	77	603	466	137	303	245	58
1995:	January	1,295	992	62	241	(NA)	(NA)	144	138	6	285	211	74	566	415	151	300	228	72
	February	1,264	927	54	283	(NA)	(NA)	119	97	22	277	202	75	531	394	137	337	234	103
	March	1,221	904	65	252	(NA)	(NA)	126	105	21	275	204	71	556	400	156	264	195	69
	April	1,245	913	61	271	(NA)	(NA)	129	105	24	274	197	77	532	394	138	310	217	93
	May	1,258	946	62	250	(NA)	(NA)	118	101	17	270	203	67	550	408	142	320	234	86
	June	1,290	970	64	256	(NA)	(NA)	118	102	16	288	215	73	563	419	144	321	234	87
	July	1,358	1,017	62	279	(NA)	(NA)	117	101	16	304	226	78	598	441	157	339	249	90
	August	1,379	1,046	62	271	(NA)	(NA)	122	106	16	309	230	79	601	447	154	347	263	84
	September	1,427	1,079	69	279	(NA)	(NA)	128	109	19	313	233	80	637	483	154	349	254	95
	October	1,393	1,050	68	275	(NA)	(NA)	125	103	22	323	237	86	629	458	171	316	252	64
	November	1,450	1,073	71	306	(NA)	(NA)	124	98	26	324	248	76	634	461	173	368	266	102
	December	1,487	1,123	60	304	(NA)	(NA)	128	101	27	317	251	66	644	471	173	398	300	98
1996:	January	1,378	1,056	65	257	(NA)	(NA)	102	94	8	312	238	74	594	460	134	370	264	106
	February	1,417	1,087	60	270	(NA)	(NA)	122	103	19	323	250	73	600	481	119	372	253	119
	March	1,423	1,097	61	265	(NA)	(NA)	137	110	27	329	240	89	591	483	108	366	264	102
	April	1,459	1,115	75	269	(NA)	(NA)	135	108	27	342	249	93	634	494	140	348	264	84
	May	1,452	1,098	62	292	(NA)	(NA)	137	108	29	304	237	67	668	493	175	343	260	83
	June	1,415	1,085	62	268	(NA)	(NA)	134	108	26	302	231	71	634	488	146	345	258	87
	July	1,457	1,073	68	316	(NA)	(NA)	136	106	30	338	240	98	625	465	160	358	262	96
	August	1,423	1,078	60	285	(NA)	(NA)	147	110	37	317	236	81	629	471	158	330	261	69
	September	1,399	1,040	73	286	(NA)	(NA)	138	109	29	306	228	78	604	446	158	351	257	94
	October	1,362	1,011	69	282	(NA)	(NA)	138	100	38	298	220	78	587	444	143	339	247	92
	November	1,418	1,025	67	326	(NA)	(NA)	135	105	30	313	216	97	641	460	181	329	244	85
	December <sup>f</sup>	1,422	1,015	64	343	(NA)	(NA)	146	101	45	313	219	94	642	457	185	321	238	83
1997:	January <sup>p</sup>	1,395	1,054	61	280	(NA)	(NA)	145	112	33	293	219	74	593	466	127	364	257	107
<b>AVERAGE RELATIVE STANDARD ERRORS<sup>3</sup></b>																			
Annual	(percent)	(Z)	1	2	3	1	(Z)	2	1	1	4	1	1	3	1	1	1	1	1
Monthly	(percent)	1	1	4	5	2	1	4	1	1	4	2	1	6	1	2	1	1	2

NA Not available. <sup>p</sup>Preliminary. <sup>f</sup>Revised. Z Less than 0.5 percent.

<sup>1</sup>Metropolitan statistical areas.

<sup>2</sup>Reflects revisions not distributed to months.

<sup>3</sup>Average Relative Standard Errors (Avg. RSE): Annual—RSE for the latest year; Monthly—Avg. RSE for the latest 6-month period (January through June or July through December).

**Table 3. New Privately Owned Housing Units Authorized, but Not Started, in Permit-Issuing Places at End of Period**

[Thousands of units. Detail may not add to total because of rounding]

Authorized, but not started at end of period	United States				Northeast				Midwest				South				West			
	Total	In structures with—			Total	In structures with—			Total	In structures with—			Total	In structures with—			Total	In structures with—		
		1 unit	2 to 4 units	5 units or more		1 unit	2 to 4 units	5 units or more		1 unit	2 to 4 units	5 units or more		1 unit	2 to 4 units	5 units or more		1 unit	2 to 4 units	5 units or more
<b>END OF YEAR</b>																				
<b>14,000-Place Series</b>																				
1977	231.8	90.7	12.9	128.2	42.4	12.5	1.0	28.9	32.2	14.1	2.5	15.6	94.9	35.9	3.3	55.7	62.3	28.2	6.1	28.0
1978	207.8	86.7	15.1	106.0	39.6	14.3	1.3	24.0	26.5	12.6	3.0	10.9	83.6	32.0	4.4	47.2	58.1	27.8	6.4	23.9
<b>16,000-Place Series</b>																				
1979	184.1	77.3	14.4	92.4	32.6	12.3	1.1	19.3	19.6	7.7	2.7	9.2	85.3	32.9	5.1	47.4	46.4	24.4	5.5	16.6
1980	173.6	70.1	15.3	88.2	26.0	12.3	1.2	12.6	17.5	6.8	2.9	7.8	88.5	32.9	6.5	49.1	41.6	18.1	4.8	18.7
1981	145.5	60.1	10.7	74.7	23.3	11.5	0.9	10.8	10.0	5.0	1.7	3.2	77.5	29.8	4.9	42.8	34.7	13.8	3.1	17.9
1982	167.8	66.9	11.6	89.3	19.4	9.4	1.0	9.0	10.4	4.5	1.7	4.2	100.3	38.5	5.9	55.9	37.7	14.5	2.9	20.2
1983	178.0	68.9	13.0	96.1	21.9	12.6	1.1	8.2	12.2	5.2	1.8	5.1	104.2	33.6	6.8	63.8	39.8	17.4	3.3	19.0
1984	192.5	66.2	10.2	116.1	23.2	10.8	1.2	11.2	14.0	5.1	1.5	7.5	109.4	34.5	4.8	70.1	45.8	15.7	2.7	27.4
<b>17,000-Place Series</b>																				
1985	223.3	80.6	13.7	129.0	36.9	19.2	2.1	15.7	20.4	5.8	2.2	12.4	120.6	43.3	5.7	71.6	45.4	12.3	3.8	29.3
1986	205.2	92.8	12.3	100.2	34.4	21.2	2.4	10.8	21.1	6.4	2.3	12.4	91.3	43.5	3.8	43.9	58.4	21.7	3.7	33.0
1987	155.0	79.3	11.1	64.6	36.8	23.3	2.1	11.4	11.9	6.5	2.2	3.2	68.6	33.8	3.5	31.4	37.7	15.7	3.3	18.6
1988	156.4	76.4	9.9	70.1	32.9	20.0	1.9	11.0	15.5	5.9	2.3	7.3	64.0	30.4	2.9	30.7	44.0	20.1	2.7	21.1
1989	173.9	93.1	8.4	72.5	34.1	25.1	1.6	7.4	18.0	7.5	1.8	8.7	73.5	34.3	2.1	37.1	48.3	26.2	2.8	19.2
1990	131.6	75.0	8.5	48.1	25.8	20.0	1.3	4.5	14.2	5.7	2.2	6.3	55.1	27.3	2.1	25.7	36.5	22.0	2.9	11.6
1991	126.3	71.1	4.7	50.6	24.4	17.3	0.7	6.4	16.9	6.4	1.4	9.1	51.3	26.0	1.3	24.0	33.8	21.4	1.4	11.1
1992	108.7	71.9	5.1	31.7	18.6	13.5	0.7	4.5	13.4	8.8	1.7	2.9	49.8	33.3	1.3	15.2	26.9	16.3	1.5	9.1
1993	118.9	72.5	3.7	42.8	22.3	15.4	0.5	6.4	14.3	8.6	1.2	4.5	58.5	35.2	1.0	22.3	23.8	13.2	1.0	9.6
1994	115.6	66.0	3.6	46.1	17.1	12.2	0.4	4.5	13.1	8.3	1.2	3.7	58.1	31.2	1.1	25.8	27.3	14.2	1.0	12.1
<b>19,000-Place Series</b>																				
1995	142.2	80.1	4.5	57.6	18.3	13.5	0.5	4.3	18.7	12.8	1.4	4.5	71.6	36.7	1.3	33.6	33.5	17.1	1.2	15.2
1996 <sup>f</sup>	128.6	68.6	4.8	55.2	16.4	9.4	0.6	6.4	17.0	11.0	1.7	4.3	69.4	32.7	1.3	35.4	25.9	15.6	1.2	9.1
<b>END OF MONTH</b>																				
1996:																				
January	137.9	79.7	4.9	53.4	18.6	13.7	0.6	4.3	17.5	11.6	1.6	4.3	72.3	39.7	1.3	31.2	29.7	14.8	1.3	13.6
February	136.8	82.3	4.5	50.0	16.6	11.7	0.5	4.5	20.0	14.4	1.5	4.2	73.2	42.5	1.4	29.3	26.9	13.6	1.2	12.1
March	147.6	89.9	6.3	51.4	17.3	12.5	0.6	4.3	23.0	16.2	2.2	4.6	75.9	45.8	1.8	28.3	31.3	15.4	1.6	14.3
April	144.8	87.4	5.6	51.8	17.4	12.8	0.7	3.9	26.3	17.4	1.9	7.0	74.1	43.1	1.6	29.3	27.1	14.2	1.4	11.6
May	146.5	91.0	4.8	50.7	18.6	12.9	0.5	5.2	26.9	20.2	1.6	5.1	74.9	41.8	1.4	31.7	26.1	16.1	1.3	8.8
June	143.3	84.6	4.0	54.7	17.9	12.6	0.5	4.7	25.5	18.1	1.3	6.0	73.2	38.5	1.2	33.6	26.7	15.3	1.0	10.4
July	146.0	85.0	4.7	56.3	18.7	12.4	0.6	5.8	25.1	15.9	1.6	7.6	72.9	39.4	1.3	32.2	29.3	17.3	1.2	10.7
August	130.7	77.0	3.7	50.0	16.4	11.6	0.4	4.4	19.8	14.8	1.3	3.7	71.1	37.1	1.1	33.0	23.4	13.5	1.0	8.9
September	128.4	72.8	5.4	50.2	15.2	10.7	0.6	4.0	20.1	13.0	2.0	5.2	68.9	35.3	1.4	32.2	24.1	13.9	1.4	8.8
October	127.7	71.9	6.0	49.7	15.6	10.1	0.7	4.8	21.2	12.3	2.3	6.7	68.9	35.9	1.6	31.5	22.0	13.8	1.5	6.7
November <sup>f</sup>	121.0	65.7	4.7	50.6	15.7	10.2	0.5	5.0	18.6	11.2	1.7	5.8	66.1	32.1	1.3	32.6	20.7	12.3	1.2	7.3
December <sup>f</sup>	128.6	68.6	4.8	55.2	16.4	9.4	0.6	6.4	17.0	11.0	1.7	4.3	69.4	32.7	1.3	35.4	25.9	15.6	1.2	9.1
1997:																				
January <sup>p</sup>	131.8	70.3	5.3	56.2	15.3	9.0	0.6	5.7	19.3	11.1	1.6	6.7	70.6	35.9	1.6	33.0	26.5	14.2	1.4	10.9
<b>AVERAGE RELATIVE STANDARD ERRORS<sup>1</sup></b>																				
End of period . . . (percent) . .	4	3	10	7	8	10	41	14	10	10	14	25	6	5	22	10	5	6	14	8

<sup>p</sup>Preliminary. <sup>f</sup>Revised.

<sup>1</sup>Average Relative Standard Errors: Average for the latest 6-month period (January-June or July-December).

Note: These backlog data represent the number of housing units authorized in all months up to and including the last day of the reporting period and not started as of that date without regard to the months of original permit issuance. Cancelled, abandoned, expired, and revoked permits are excluded from the backlog.

**Table 4. New Privately Owned Housing Units Started by Location and Type of Structure**

[Thousands of units. Detail may not add to total because of rounding]

Period	United States			Inside MSA's <sup>1</sup>			Outside MSA's <sup>1</sup>			Northeast			Midwest			South			West		
	In structures with—		Total <sup>2</sup>	In structures with—		Total <sup>2</sup>	In structures with—		Total <sup>2</sup>	In structures with—		Total <sup>2</sup>	In structures with—		Total <sup>2</sup>	In structures with—		Total <sup>2</sup>	In structures with—		Total <sup>2</sup>
	Total <sup>2</sup>	1 unit		5 units or more	1 unit		5 units or more	1 unit		5 units or more	1 unit		5 units or more	1 unit		5 units or more	1 unit		5 units or more	1 unit	
<b>ANNUAL DATA</b>																					
1977	1,987	1,451	414	1,377	943	347	610	508	68	202	156	36	465	337	99	783	588	163	538	370	117
1978	2,020	1,433	462	1,432	941	396	588	492	66	200	147	43	451	325	98	824	604	185	545	358	137
1979	1,745	1,194	429	1,241	790	362	505	405	67	178	123	46	349	243	80	748	522	184	470	306	119
1980	1,292	852	331	914	563	271	379	289	59	125	87	30	218	142	56	643	428	165	306	196	80
1981	1,084	705	288	760	458	236	324	247	52	117	84	25	165	110	40	562	363	153	240	148	69
1982	1,062	663	320	785	452	274	277	211	46	117	79	31	149	99	38	591	357	189	205	127	61
1983	1,703	1,068	522	1,351	795	464	352	272	58	168	123	35	218	153	48	935	557	317	382	234	121
1984	1,750	1,084	544	1,415	830	491	335	254	53	204	158	35	243	167	60	866	528	274	436	230	175
1985	1,742	1,072	576	1,494	882	535	248	190	41	252	182	55	240	148	77	782	504	240	468	239	204
1986	1,805	1,179	542	1,546	970	508	259	209	34	294	228	50	296	188	91	733	504	201	483	261	200
1987	1,620	1,146	409	1,372	934	385	248	212	24	269	204	50	298	203	81	634	485	129	420	255	148
1988	1,488	1,081	348	1,243	874	323	245	207	25	235	181	42	274	194	66	575	443	115	404	264	125
1989	1,376	1,003	318	1,128	798	289	248	205	29	178	132	37	266	190	62	536	409	109	396	272	108
1990	1,193	895	260	947	685	233	246	210	27	131	104	21	253	193	50	479	371	99	329	226	91
1991	1,014	840	138	789	648	117	225	193	21	113	99	8	233	191	31	414	353	51	254	197	47
1992	1,200	1,030	139	932	793	117	268	237	22	127	112	11	288	236	42	497	438	50	288	244	36
1993	1,288	1,126	133	1,032	897	114	256	229	19	126	116	8	298	251	37	562	498	55	302	261	33
1994	1,457	1,198	224	1,183	958	200	274	241	23	138	123	12	329	268	50	639	522	107	351	286	54
1995	1,354	1,076	244	1,106	861	221	248	215	23	118	102	12	290	234	46	615	485	119	331	256	67
1996 <sup>†</sup>	1,475	1,160	270	1,210	935	241	265	224	29	132	111	15	321	254	51	661	524	124	361	271	79
<b>QUARTERLY DATA</b>																					
1993: 1st quarter	241	213	22	198	176	18	43	38	4	19	17	1	46	40	4	119	107	10	57	49	6
2nd quarter	367	324	35	289	253	30	79	71	5	36	34	2	89	74	12	156	140	13	87	76	8
3rd quarter	356	309	37	284	245	33	71	64	4	38	35	3	86	73	9	147	130	15	85	71	11
4th quarter	324	279	38	261	224	33	63	56	6	33	30	2	78	64	12	140	121	17	73	64	8
1994: 1st quarter	294	253	35	248	212	32	46	41	4	20	17	3	51	45	5	142	121	19	80	69	9
2nd quarter	423	354	60	339	279	53	84	75	7	43	39	3	104	86	16	180	148	29	95	81	12
3rd quarter	398	326	62	317	254	55	81	72	6	39	35	4	94	77	14	167	137	27	98	77	17
4th quarter	343	266	66	279	212	60	63	54	7	36	32	3	79	60	15	150	115	32	78	58	16
1995: 1st quarter	270	214	48	226	177	44	44	37	4	22	19	2	45	36	8	134	106	24	69	54	14
2nd quarter	371	297	65	298	232	59	73	65	6	36	29	5	85	70	12	160	127	30	91	70	19
3rd quarter	387	308	69	314	245	62	73	63	7	33	30	2	89	72	14	170	133	35	95	73	19
4th quarter	326	257	62	268	207	56	58	50	6	27	24	3	71	57	13	152	118	31	76	59	15
1996: 1st quarter	303	240	57	253	198	52	49	42	6	21	18	2	53	43	8	145	117	27	84	62	20
2nd quarter	428	344	69	348	275	62	80	69	7	39	33	4	96	78	13	188	154	30	105	79	22
3rd quarter	410	324	75	332	257	66	78	67	9	38	33	4	99	78	17	176	139	34	97	74	20
4th quarter <sup>†</sup>	333	251	68	276	205	60	57	47	8	33	27	5	74	55	14	151	115	33	75	55	17
<b>AVERAGE RELATIVE STANDARD ERRORS<sup>3</sup></b>																					
Annual . . . . . (percent) . .	1	1	2	1	1	2	3	3	11	1	1	8	2	2	7	2	2	4	1	1	2
Quarterly . . . . . (percent) . .	2	2	7	2	1	7	6	5	29	3	2	15	5	3	23	3	3	10	2	2	4

<sup>†</sup>Revised.

<sup>1</sup>Metropolitan statistical areas.

<sup>2</sup>Includes units started in structures with two to four units.

<sup>3</sup>Average Relative Standard Errors (Avg. RSE): Annual—Avg. RSE for the last 2 years; Quarterly—Avg. RSE for the latest 2-quarter period (quarter 1 through quarter 2 or quarter 3 through quarter 4).

**Table 5. New Mobile Homes: Placements, Average Sales Price, Dealers' Inventories, and Manufacturers' Shipments**

[Placements and inventory figures may not add to total because of rounding]

Period	Placed for residential use										Number on dealer lots at end of period (thousands)					Mobile home shipments (thous) <sup>1</sup>	
	Number (thousands)					Average sales price (dollars)					United States	North-east	Mid-west	South	West		
	United States	North-east	Mid-west	South	West	United States	North-east	Mid-west	South	West							
<b>ANNUAL DATA</b>																	
1992	212.0	15.0	42.2	124.4	30.4	28,400	30,900	28,800	25,400	39,000	50.9	3.9	9.1	31.7	6.2	210.5	
1993	242.5	15.4	44.5	146.7	35.9	30,500	32,000	31,400	27,700	40,500	61.4	4.2	10.6	39.2	7.3	254.3	
1994	286.1	18.2	53.0	174.4	42.5	33,500	33,900	34,600	30,500	44,600	72.3	3.9	12.4	47.4	8.6	303.9	
1995	310.7	14.6	56.0	198.3	41.8	36,300	37,600	36,600	34,000	46,800	91.0	4.6	15.9	58.0	12.5	339.9	
1996	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	363.3	
<b>MONTHLY DATA</b>																	
<b>Not Seasonally Adjusted</b>																	
1995:	January	21.0	0.9	2.7	14.9	2.5	35,500	36,400	34,000	33,800	47,500	70.5	3.7	13.0	45.3	8.6	25.7
	February	20.4	0.8	3.0	13.6	2.9	34,800	37,600	34,300	32,900	43,300	74.6	3.9	14.1	47.0	9.6	24.3
	March	25.6	1.0	3.9	17.4	3.3	34,200	34,000	35,100	31,800	45,600	76.6	4.3	14.5	47.5	10.3	29.2
	April	24.8	0.8	3.8	16.7	3.4	33,900	37,300	34,300	31,300	45,500	78.5	4.7	15.6	47.5	10.6	26.1
	May	28.5	1.2	4.7	18.9	3.7	35,300	37,200	36,100	33,200	44,800	80.2	4.9	16.3	47.6	11.4	30.0
	June	30.9	1.5	5.8	19.9	3.7	36,100	36,300	34,500	34,400	47,600	79.4	4.8	16.1	46.8	11.6	30.7
	July	26.2	1.5	5.2	16.0	3.5	36,200	37,600	36,700	33,900	45,800	78.4	4.7	15.8	46.3	11.6	24.7
	August	29.9	1.8	5.8	17.8	4.5	38,300	38,000	39,800	35,200	48,900	81.3	4.5	16.0	49.4	11.5	33.2
	September	28.2	1.7	6.3	16.4	3.8	35,800	36,000	35,600	33,200	47,500	80.0	4.3	14.7	49.7	11.4	29.7
	October	29.5	1.3	5.5	18.5	4.2	37,700	39,100	39,300	35,000	47,000	83.7	4.7	15.9	51.7	11.5	32.9
	November	23.8	1.3	5.0	14.4	3.2	37,700	37,800	37,600	35,500	48,100	87.3	4.6	15.7	55.3	11.7	29.4
	December	21.8	0.7	4.3	13.8	3.0	40,000	47,400	39,600	37,800	49,900	91.0	4.6	15.9	58.0	12.5	24.1
1996:	January	18.2	0.7	2.0	13.2	2.3	37,600	42,700	39,900	35,700	44,900	92.0	4.8	16.8	58.4	12.1	27.1
	February	24.9	1.0	3.5	17.1	3.3	36,600	34,800	37,500	34,600	46,900	90.9	4.7	17.2	56.8	12.1	27.2
	March	26.2	0.8	3.5	18.5	3.5	35,900	36,800	36,900	34,200	44,100	93.7	5.1	18.0	58.2	12.4	30.1
	April	22.0	0.7	3.3	15.0	3.0	38,300	35,600	43,900	35,700	46,400	99.3	5.4	19.0	62.4	12.6	32.5
	May	29.7	1.7	5.6	18.6	3.7	38,200	38,600	38,700	36,000	48,500	101.2	5.1	19.1	64.7	12.4	33.5
	June	31.2	1.6	6.0	18.9	4.7	38,900	41,400	39,100	36,300	48,500	103.8	5.0	18.7	67.9	12.3	31.2
	July	25.9	1.6	5.2	15.5	3.6	39,600	38,200	40,500	37,300	48,900	105.3	5.1	18.1	70.2	11.9	29.1
	August	30.4	1.9	6.5	17.7	4.3	38,000	40,800	37,900	35,700	46,700	107.7	5.2	17.5	73.4	11.6	34.3
	September	25.6	1.6	5.8	14.1	4.2	39,900	43,400	40,900	36,300	50,000	112.7	5.2	17.1	78.4	11.9	31.5
	October	34.9	1.4	6.5	23.0	4.1	39,400	41,500	40,100	37,600	48,300	113.4	5.5	17.2	78.2	12.6	36.0
	November <sup>P</sup>	20.6	1.2	4.0	12.6	2.9	39,700	40,300	39,300	37,600	49,400	120.0	5.3	17.6	83.9	13.2	28.0
	December	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	22.9	
<b>Seasonally Adjusted<sup>2</sup></b>																	
1994:	January	262	15	60	146	40	(X)	(X)	(X)	(X)	(X)	64	4	12	40	8	296
	February	279	13	54	173	38	(X)	(X)	(X)	(X)	(X)	65	5	12	41	8	293
	March	275	11	58	163	42	(X)	(X)	(X)	(X)	(X)	67	4	12	41	8	298
	April	285	16	53	174	43	(X)	(X)	(X)	(X)	(X)	68	4	13	43	9	294
	May	297	17	52	187	42	(X)	(X)	(X)	(X)	(X)	68	4	13	43	8	297
	June	277	12	49	170	46	(X)	(X)	(X)	(X)	(X)	70	4	13	43	8	299
	July	304	21	54	187	42	(X)	(X)	(X)	(X)	(X)	71	4	14	45	8	301
	August	266	17	49	160	40	(X)	(X)	(X)	(X)	(X)	73	4	14	46	9	303
	September	274	17	46	168	43	(X)	(X)	(X)	(X)	(X)	73	4	14	46	9	305
	October	301	20	54	182	45	(X)	(X)	(X)	(X)	(X)	73	4	14	46	9	315
	November	319	17	59	199	43	(X)	(X)	(X)	(X)	(X)	71	4	13	45	9	317
	December	308	15	59	188	46	(X)	(X)	(X)	(X)	(X)	73	4	14	47	9	343
1995:	January	365	22	66	233	43	(X)	(X)	(X)	(X)	(X)	70	4	13	44	9	344
	February	317	17	65	191	44	(X)	(X)	(X)	(X)	(X)	72	4	13	45	9	329
	March	312	15	60	196	42	(X)	(X)	(X)	(X)	(X)	73	4	14	45	9	326
	April	299	11	51	196	41	(X)	(X)	(X)	(X)	(X)	74	4	14	46	10	325
	May	307	13	50	205	39	(X)	(X)	(X)	(X)	(X)	78	5	15	47	11	333
	June	308	14	54	201	40	(X)	(X)	(X)	(X)	(X)	78	5	15	47	11	331
	July	298	15	52	191	40	(X)	(X)	(X)	(X)	(X)	82	5	16	49	12	336
	August	305	17	54	190	44	(X)	(X)	(X)	(X)	(X)	85	4	16	52	12	342
	September	328	18	66	200	44	(X)	(X)	(X)	(X)	(X)	84	4	16	52	12	349
	October	316	12	52	208	43	(X)	(X)	(X)	(X)	(X)	88	5	17	53	13	352
	November	289	14	55	180	39	(X)	(X)	(X)	(X)	(X)	89	5	17	55	12	354
	December	307	9	58	199	40	(X)	(X)	(X)	(X)	(X)	92	5	18	57	13	370
1996:	January	311	17	49	205	40	(X)	(X)	(X)	(X)	(X)	91	5	17	57	12	350
	February	360	20	71	222	47	(X)	(X)	(X)	(X)	(X)	84	5	16	53	11	346
	March	328	13	55	218	43	(X)	(X)	(X)	(X)	(X)	90	5	17	56	12	368
	April	252	9	44	161	38	(X)	(X)	(X)	(X)	(X)	95	5	17	61	12	373
	May	315	17	57	201	39	(X)	(X)	(X)	(X)	(X)	98	5	17	64	12	366
	June	331	15	58	207	50	(X)	(X)	(X)	(X)	(X)	103	5	18	69	12	372
	July	295	16	53	184	42	(X)	(X)	(X)	(X)	(X)	110	5	18	74	12	366
	August	314	17	59	196	43	(X)	(X)	(X)	(X)	(X)	112	5	18	76	12	369
	September	292	16	59	169	47	(X)	(X)	(X)	(X)	(X)	117	5	18	81	13	372
	October	377	14	64	257	43	(X)	(X)	(X)	(X)	(X)	118	6	18	80	14	364
	November <sup>P</sup>	265	14	47	167	38	(X)	(X)	(X)	(X)	(X)	122	6	19	83	14	354
	December	(NA)	(NA)	(NA)	(NA)	(NA)	(X)	(X)	(X)	(X)	(X)	(NA)	(NA)	(NA)	(NA)	(NA)	338
<b>AVERAGE RELATIVE STANDARD ERRORS<sup>3</sup></b>																	
Annual	(percent)	1	5	2	1	2	1	3	1	2	(X)	(X)	(X)	(X)	(X)	(X)	
Monthly	(percent)	4	17	8	5	9	3	13	5	4	2	8	4	2	5	(X)	

NA Not available. <sup>P</sup>Preliminary (does not apply to shipments). X Not applicable.

<sup>1</sup>Seasonally adjusted estimates of manufacturers' shipments of mobile homes for January 1994 through November 1996 have been revised.

<sup>2</sup>Data for placements and shipments of mobile homes are seasonally adjusted at an annual rate.

<sup>3</sup>Average Relative Standard Errors (Avg. RSE): Annual—Avg. RSE for the last 2 years; Monthly—Avg. RSE for the latest 6-month period (January through June or July through December).

Source: Except for manufacturers' shipments, these data are produced by the Commerce Department's Bureau of the Census from a survey sponsored by the Department of Housing and Urban Development. Statistics on shipments are compiled from manufacturers' reports to the National Conference of States on Building Codes and Standards (NCSBCS).



Table 6. New Privately Owned Housing Units Started by Purpose of Construction

[Thousands of units. Detail may not add to total because of rounding]

Period	Total	In structures with—							
		1 unit					2 units or more		
		Total	For sale <sup>1</sup>	For owner occupancy on owner's land		For rent	Total	For sale	For rent
				Contractor built	Owner built				
<b>ANNUAL DATA</b>									
1977.....	1,987	1,451	904	298	240	9	536	90	446
1978.....	2,020	1,433	901	287	231	14	587	131	456
1979.....	1,745	1,194	742	213	222	17	551	173	378
1980.....	1,292	852	526	149	164	12	440	163	277
1981.....	1,084	705	426	122	148	10	379	158	221
1982.....	1,062	663	409	108	133	12	400	140	259
1983.....	1,703	1,068	713	151	179	24	635	210	425
1984.....	1,750	1,084	728	157	165	33	665	206	459
1985.....	1,742	1,072	713	177	157	26	669	154	515
1986.....	1,805	1,179	782	204	166	27	626	143	483
1987.....	1,620	1,146	732	208	178	28	474	130	344
1988.....	1,488	1,081	709	196	154	22	407	99	307
1989.....	1,376	1,003	648	192	144	19	373	87	286
1990.....	1,193	895	529	196	147	22	298	56	241
1991.....	1,014	840	490	198	138	14	174	41	132
1992.....	1,200	1,030	618	224	168	19	170	41	128
1993.....	1,288	1,126	716	225	162	22	162	44	118
1994.....	1,457	1,198	763	245	169	22	259	52	206
1995.....	1,354	1,076	712	199	133	33	278	51	227
1996 <sup>P</sup> .....	1,475	1,160	774	218	142	26	315	60	255
<b>QUARTERLY DATA</b>									
1991: 1st quarter.....	185	147	92	33	19	3	39	8	31
2nd quarter.....	301	254	147	59	45	4	47	12	34
3rd quarter.....	285	240	135	60	42	3	45	12	33
4th quarter.....	243	200	118	47	30	4	43	9	34
1992: 1st quarter.....	262	219	145	42	28	4	44	10	34
2nd quarter.....	341	296	173	67	52	4	44	11	34
3rd quarter.....	322	276	159	64	49	5	46	10	36
4th quarter.....	275	239	145	52	37	5	36	11	25
1993: 1st quarter.....	241	213	142	42	26	3	27	10	18
2nd quarter.....	367	324	204	62	52	6	43	11	32
3rd quarter.....	356	309	192	64	48	5	46	12	34
4th quarter.....	324	279	181	55	38	6	45	11	34
1994: 1st quarter.....	294	253	176	46	26	5	41	12	30
2nd quarter.....	423	354	221	75	54	4	69	14	54
3rd quarter.....	398	326	199	71	50	5	72	16	56
4th quarter.....	342	266	170	52	36	7	77	12	64
1995: 1st quarter.....	270	214	149	37	25	4	56	11	45
2nd quarter.....	371	297	195	54	37	10	74	15	59
3rd quarter.....	387	308	198	59	42	9	79	13	66
4th quarter.....	326	257	177	46	27	8	69	12	57
1996: 1st quarter.....	303	240	175	40	21	4	63	11	52
2nd quarter.....	428	344	229	70	39	5	85	18	67
3rd quarter <sup>f</sup> .....	410	324	210	63	44	7	87	18	68
4th quarter <sup>P</sup> .....	333	251	168	47	31	6	82	16	66
<b>AVERAGE RELATIVE STANDARD ERRORS<sup>2</sup></b>									
Annual.....(percent) ..	1	1	2	6	5	10	3	9	3
Quarterly.....(percent) ..	2	1	2	7	6	18	6	12	7

<sup>P</sup>Preliminary. <sup>f</sup>Revised.<sup>1</sup>Includes houses already sold when construction started.<sup>2</sup>Average Relative Standard Errors (Avg. RSE): Annual—Avg. RSE for the last 2 years; Quarterly—Avg. RSE for the latest 2-quarter period (quarter 1 through quarter 2 or quarter 3 through quarter 4).

Note: Housing units for which purpose of construction was not reported have been distributed proportionally to those for which the information was reported.

## Appendix A.

# Definitions and Survey Description

### DEFINITIONS

The start of construction of a privately owned housing unit is when excavation begins for the footings or foundation of a building intended primarily as a housekeeping residential structure and designed for nontransient occupancy. All housing units in a multifamily building are defined as being started when excavation for the building has begun. Beginning with statistics for September 1992, estimates of housing starts include units in residential structures being totally rebuilt on an existing foundation.

A housing unit is a single room or group of rooms intended for occupancy as separate living quarters by a family, by a group of unrelated persons living together, or by a person living alone. Separate living quarters are those in which the occupants do not live and eat with any other persons in the structure and which have direct access from the outside of the building or through a common hall which is used or intended to be used by the occupants of another unit or by the general public.

A housekeeping residential building is one consisting primarily of housing units. New housing starts exclude group quarters (such as dormitories and rooming houses), transient accommodations (such as transient hotels, motels, and tourist courts), mobile homes (trailers), moved or relocated buildings, and housing units created in an existing residential or nonresidential structure. However, in a building combining substantial residential and nonresidential floor areas, every effort is made to include the residential units in these statistics, even though the primary function of the entire building is for nonresidential purposes.

Housing units, as distinguished from mobile homes, include conventional “stick-built” units, prefabricated, panelized, componentized, sectional, and modular units. Except for table 5, mobile homes—single-wide and multiwide—are excluded from the statistics. A mobile home is defined as a portable dwelling constructed to be towed on its own chassis and designed for use without a permanent foundation; it is manufactured with the transportation gear as an integral part of the unit and can be towed from site to site.

Publicly owned housing units (contract awards) are excluded from the statistics. Units in structures built by private developers with partial public subsidies or which are for sale upon completion to local public housing authorities under the HUD “Turnkey” program are both classified as private housing.

The statistics, by type of structure, refer to the structural characteristics of the building. The one-unit structure category includes fully detached, semidetached (semiattached, side-by-side), rowhouses, and townhouses. In the case of attached units, each must be separated from the adjacent unit by a ground-to-roof wall in order to be classified as a one-unit structure. Also, these units must not share heating/air-conditioning systems or interstructural public utilities, such as water supply, power supply, or sewage disposal lines. Units built one on top of another and those built side-by-side which do not have a ground-to-roof wall and/or have common facilities (i.e., attic, basement, heating plant, plumbing, etc.) are classified by the number of units in the structure (i.e., two-unit structure, three-unit structure, etc.). In these statistics, apartment buildings are defined as buildings containing five units or more. Apartments in a conventional-type apartment building may share a common basement, heating plant, stairs, entrance halls, and water supply and sewage disposal facilities. Townhouse apartments, though attached, are not separated by a ground-to-roof wall and/or share some interstructural facilities, such as water supply, sewage disposal, etc.

Ownership is not the criterion for structural classifications in this report. A condominium apartment building is classified with apartment buildings in structures with five units or more, despite the fact that each unit is individually owned. Condominium townhouses may be in the one-unit category if each unit is separated from its neighbor by a ground-to-roof wall (no commonly shared interstructural facilities), or in the multiunit building categories if they are not separated from each other by a ground-to-roof wall (share interstructural facilities).

The standard census geographic regions are used in the tables of this report. States contained in each region are as follows: **Northeast** — Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Pennsylvania; **Midwest** — Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas; **South** — Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, and Texas; **West** — Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Washington, Oregon, California, Alaska, and Hawaii.

The distribution of housing starts between units inside and outside metropolitan statistical areas (MSA's) is based

on the definitions published by the Office of Management and Budget in *Metropolitan Statistical Areas*. Data for the period beginning January 1994 are based on the 1992 definitions, as amended June 1993; data for the period January-December 1993 are based on the 1992 definitions; data for January 1984-December 1992 are based on the 1974 definitions, as amended June 1983; data for January 1976-December 1983 are based on the 1974 definitions, as amended August 1975; data for January 1975-December 1975 are based on the 1967 definitions, as amended April 1974; data for January 1974-December 1974 are based on the 1967 definitions, as amended November 1973; data for April 1973-December 1973 are based on the 1967 definitions, as amended February 1973; data for April 1968-March 1973 are based on the 1967 definitions.

## SAMPLE DESIGN AND SELECTION

The sample design for the Survey of Construction is a stratified multistage cluster design derived from the Current Population Survey (CPS), 1980 design. Each State was divided into areas made up of counties (towns in New England) and independent cities. These areas were grouped within each State to form strata for the CPS according to metropolitan status and 1980 labor force, race/ethnic origin, population change, and family and housing characteristics. One area from each of the strata was selected with probability proportional to the number of persons 16 years of age and older. The CPS strata were further stratified into 169 strata according to census region, metropolitan status, building permit activity in 1982, population, and the percent of the population in areas which do not issue permits. One of the CPS selected areas was chosen from each of these 169 strata with probability proportional to the number of persons 16 and older.

Within each of these 169 areas, the sample was selected from two different sample frames: permit-issuing places and land areas not covered by building permit systems.

Each of the 17,000 permit-issuing places was assigned to 1 of 6 size classes based on a weighted average of 1978, 1981, and 1982 permit activity. The permit places in each of the 169 areas were grouped into these six size classes and a systematic sample of places was selected from each one of them. Places were selected at different sampling rates in each of the classes so that larger proportions of the places were selected from the larger size classes. For example, all places in the largest size classes fell into sample if they were in the 169 areas, whereas, only an expected 1 in 40 of the places in the smallest size class fell into sample. Approximately 840 permit-issuing places were selected.

Monthly, census field representatives sample permits from these 840 permit-issuing places. They select permits for one-to-four-unit buildings with probability proportional to the number of units at an overall rate of 1 in 40. All permits for buildings with five units or more are selected.

Within each of the 169 areas, the land not covered by building permit systems, called nonpermit areas, was identified. Small land areas (1980 census enumeration districts) in these nonpermit areas were grouped into two strata according to the 1980 population. Overall, 1 out of every 120 land areas was selected from the strata with the larger areas and 1 out of 600 was selected from the strata with the smaller areas. Monthly, census field representatives intensively canvassed about 130 selected land areas looking for all housing units started.

In January 1995, the area covered by building permit systems was expanded to 19,000 permit-issuing places. Canvassing was stopped in those selected land areas now represented by permit-issuing places. Census field representatives continue to canvass monthly about 70 land areas still not covered by building permit systems.

## HOUSING STARTS COMPILATION

The compilation of the housing starts series is a multistage process. First, an estimate is made monthly of the number of housing units for which building permits have been issued in all 19,000 permit-issuing places (table 2). The estimate of building permit authorizations is based on a sample of 8,500 of these 19,000 jurisdictions.

Second, for each permit selected in the 840 permit-issuing places, an inquiry is made of the owner or the builder to determine in which month and year the unit(s) covered by the permit was (were) started. In case the units authorized by permits in a particular month are not started by the end of that month, followups are made in successive months to find out when the units were actually started.

From this sample of permits, ratios are calculated (by type of structure) of the number of units started to the number of units covered by permits; separate ratios are calculated for units started from permits of that month and of each preceding month. These ratios, or starts rates, are then applied to the appropriate estimate of the number of units authorized by permits in the corresponding months to provide estimates of the number of units started for each month of authorization.

Having produced estimates of the number of units started with permit authorization, two additional adjustments are made.

1. An upward adjustment of 3.3 percent is made to the number of one-unit structures (single-family houses) started to account for those units started within permit-issuing areas but without permit authorization. (A study spanning a 4-year period indicated that permits were obtained for all buildings with two housing units or more.)
2. Upward imputations are made to account for those units started prior to permit authorization and for late reports.

The estimates for housing units started in the 19,000 permit-issuing places result from the procedures outlined above.

Third, units identified as started in the monthly canvass of nonpermit areas are weighted appropriately to provide an estimate of total housing starts in areas not covered by building permit systems.

Addition of this estimate of starts in nonpermit areas to the estimate of starts in the 19,000 permit-issuing places results in an estimate of total private housing units started (table 1).

## STARTS BY TYPE OF STRUCTURE

A total of 14 different sets of starts rates that change from month to month are utilized to calculate the number of housing units started by type of structure in permit places. Eight sets of starts rates are used for one-unit structures: separate sets of rates for metropolitan and nonmetropolitan areas within each of the four regions. For structures with five units or more, separate sets of starts rates are used for each of the four regions. Single sets of starts rates are used for all regions for structures with two units and for structures with three and four units.

Starts by type of structure in nonpermit areas are calculated directly in the estimating procedure described above.

## BUILDING PERMITS

Data on housing units authorized by local building permits relate to the time of issuance rather than to the actual start of construction. They do, however, provide some indication of residential building activity in advance of the start of actual construction. Although construction is started on most residential buildings in the same month in which the permit is issued, several months may pass before start of construction.

The 19,000 areas with local building permit systems for which figures are currently given in this report (table 2) account for a major portion of residential building in the United States. For the country as a whole, approximately 96 percent of private housing units are now constructed in permit-issuing places. Beginning with 1994, data are based upon 19,000 places. Data for 1985 through 1994 are for 17,000 places; data for 1978 through 1984 are for 16,000 places; data for 1971 through 1978 are for 14,000 places; data for 1968 through 1972 are for 13,000 places.

Monthly estimates of building permit authorizations are based on reports from a stratified probability sample of 8,500 local building permit jurisdictions. A more detailed description of the sample is provided in the Census Bureau's monthly C40 series, *Housing Units Authorized by Building Permits*.

## MOBILE HOME SHIPMENTS

Beginning with the data for November 1977, the statistics on manufacturers' shipments of mobile homes (table 5) produced by the National Conference of States on Building Codes and Standards (NCSBCS) are published in this report in lieu of those previously provided by the Manufactured Housing Institute (MHI). MHI has accepted, and now publishes, the NCSBCS statistics. For further information on NCSBCS data collection procedures, write to NCSBCS, 481 Carlisle Drive, Herndon, Virginia 22070.

A mobile home is defined as a movable dwelling, 8 feet or more wide and 40 feet or more long, designed to be towed on its own chassis, with transportation gear integral to the unit when it leaves the factory, and without need of a permanent foundation. These mobile homes include multi-wides and expandable mobile homes. Excluded are travel trailers, motor homes, and modular housing. The shipments figures are based on reports submitted by manufacturers on the number of mobile homes actually shipped during the survey month. Shipments to dealers may not necessarily be placed for residential use in the same month as they are shipped. The number of mobile "homes" used for nonresidential purposes is not known.

## MOBILE HOME PLACEMENTS

Data shown on mobile home placements (table 5) are based on a survey conducted by the Bureau of the Census and sponsored by the Department of Housing and Urban Development.

The methodology for collecting information on new mobile homes for 1974 through 1979 involved contacting a sample of mobile home dealers each month within 137 geographic areas or primary sampling units. The dealers were requested to provide data on the number of mobile homes received from manufacturers, the number placed on a site for residential use, and the number held in inventory.

The methodology used after 1979 involves a monthly sample of new mobile homes shipped by manufacturers. The dealer to whom the sampled unit was shipped is contacted by telephone and asked about the status of the unit. This is done each month until that unit is reported placed.

## RELIABILITY OF DATA

The various estimates of privately owned housing units started and privately owned housing units authorized by building permits which are shown in this publication are based on sample surveys and may differ from statistics which would have been obtained from a complete census using the same schedules and procedures. An estimate

based on a sample survey is subject to both sampling error and nonsampling error. The accuracy of a survey result is determined by the joint effects of these errors.

### Measures of Sampling Errors

Sampling error reflects the fact that only a particular sample was surveyed rather than the entire population. Each sample selected for the Housing Starts and Building Permits surveys is one of a large number of similar probability samples that, by chance, might have been selected under the same specifications. Estimates derived from the different samples would differ from each other. The standard error, or sampling error, of a survey estimate is a measure of the variation among the estimates from all possible samples and, thus, is a measure of the precision with which an estimate from a particular sample approximates the average from all possible samples.

Estimates of the standard errors have been computed from the sample data for selected statistics in this report. They are presented in the tables in the form of average relative standard errors. The relative standard error equals the standard error divided by the estimated value to which it refers.

The sample estimate and an estimate of its standard error allow us to construct interval estimates with prescribed confidence that the interval includes the average result of all possible samples with the same size and design. For example, suppose table 1 of this report showed that an estimated 110,000 units in one-unit structures were started in a particular month. Further, suppose that the average relative standard error of this estimate is 3 percent. Multiplying 110,000 by 0.03, we obtain 3,300 as the standard error. This means that we are confident, with 2 chances out of 3 being correct, that the average estimate from all possible samples of one-unit structures started during the particular month is between 113,300 and 106,700 units. To increase the probability to about 9 chances out of 10 that the interval contains the average value over all possible samples (this is called a 90-percent confidence interval), multiply 3,300 by 1.6, yielding limits of 115,280 and 104,720 (110,000 units plus or minus 5,280 units). The average estimate of one-unit structures started during the specified month may or may not be contained in any one of these computed intervals; but for a particular sample, one can say that the average estimate from all possible samples is included in the constructed interval with a specified confidence of 90 percent.

Ranges of 90-percent confidence intervals for estimated percent changes are shown in the text. When the range of the confidence interval contains zero, it is unclear whether there was an increase or decrease; that is, the change is not statistically significant.

### Nonsampling Errors

As calculated for this report, the coefficient of variation estimates sampling variation but does not measure all

nonsampling error in the data. Nonsampling error consists of both a variance component and a bias component. Bias is the difference, averaged over all possible samples of the same size and design, between the estimate and the true value being estimated. Nonsampling errors are usually attributed to many possible sources: (1) coverage error failure to accurately represent all population units in the sample, (2) inability to obtain information about all sample cases, (3) response errors, possibly due to definitional difficulties or misreporting, (4) mistakes in recording or coding the data obtained, and (5) other errors of coverage, collection and nonresponse, response, processing, or imputing for missing or inconsistent data. These nonsampling errors also occur in complete censuses. Although no direct measures of these errors have been obtained, precautionary steps have been taken in all phases of the collection, processing, and tabulation of the data to minimize their influence.

As described in the section, "Housing Starts Compilation," a potential source of bias is the upward adjustment of 3.3 percent made to account for one-unit structures started in permit-issuing areas without permit authorization. Another source is the imputation for units started prior to permit authorization and for late reports. For the Building Permits Survey, estimates are imputed for nonresponse. The final estimates of privately owned housing units started and building permits issued are imputed less than 2 percent.

### SEASONAL ADJUSTMENT

For analyzing general trends in the economy, seasonally adjusted data are usually preferred since seasonal adjustment eliminates the effect of changes that normally occur at about the same time and in about the same magnitude every year. For example, suppose that the normal month-to-month change in an unadjusted series between February and March was an increase of 20 percent. Then, an increase in the unadjusted series of less than 20 percent would be viewed as a decrease in the seasonally adjusted series; an increase of exactly 20 percent would be viewed as no change in the adjusted series; and an increase of more than 20 percent would be viewed as an increase in the adjusted series.

The recurring changes in a series that are removed by seasonal adjustment result from such factors as normal changes in weather and differing lengths of months. It should be emphasized that seasonal adjustment does not account for abnormal weather conditions or for year-to-year changes in weather.

Most of the seasonally adjusted series in this report are shown as seasonally adjusted annual rates (SAAR). A SAAR is the seasonally adjusted monthly rate multiplied by 12.

The seasonal adjustment indexes shown in this publication have been developed using X-11-ARIMA, a modification of the X-11 Census Method II seasonal adjustment

program. The computation of the monthly seasonal indexes uses trading-day adjustment factors to account for different patterns of activity among days of the week and the variation in the number of times each day of the week occurs in each particular month.

The X-11-ARIMA program also gives summary statistics which are used in determining the adequacy of the seasonal adjustment. These statistics are summarized in tables A-4 and A-5, and a brief definition of each statistic is given below table A-5. A description of the X-11-ARIMA version appears in "The X-11-ARIMA Seasonal Adjustment Method," by Estela Bee Dagum, Statistics Canada. This publication is available from Statistics Canada, 25-A Coats Building, Ottawa, Ontario, K1A0T6. A description of the test for the impact of trading days is found in Bureau of the Census Technical Paper No. 12, "Estimating Trading-Day Variation in Monthly Economic Time Series" (1967). This paper is available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

An assumption underlying the seasonal adjustment process is that the original series can be separated into a seasonal component, a trading-day component, a trend-cycle component, and an irregular component. The seasonally adjusted series consists of the trend-cycle and irregular components taken together. The trend-cycle component includes the long-term trend and the business cycle. The irregular component is made up of residual variations, such as the sudden impact of political events and the effects of strikes, unusual weather conditions, reporting and sampling errors, etc.

## Housing Starts

Seasonal indexes are developed concurrently each month for total private housing starts, by region and by type of structure. With the concurrent seasonal adjustment procedure, each series is run through the X-11-ARIMA program every month as new data become available. The seasonally adjusted U.S. total is the sum of six seasonally adjusted components: single-family structures in each of the four regions, U.S. total for two-to-four unit structures, and U.S. total for structures with five units or more. Also, the unadjusted data for the four regions are seasonally adjusted and subsequently modified so that the seasonally adjusted U.S. total derived from the regions equals the seasonally adjusted U.S. total derived from the structures. The seasonal indexes for private housing starts shown in table A-1 include trading-day adjustment factors which were estimated internally by the regression routine.

## Building Permits

Seasonal indexes are also developed concurrently each month for total housing units authorized by building permits, by region and by type of structure. The seasonally adjusted building permits estimates are computed using a procedure similar to that used for housing starts. Regional estimates of units in structures with two units or more are not seasonally adjusted directly. These seasonally adjusted annual rates are derived by calculating the differences between the seasonally adjusted regional total and one-unit estimates.

Trading-day adjustment factors for building permits are not estimated internally by the regression routine. The daily pattern obtained empirically from the unadjusted building permits data closely approximates a 5-day week in which Monday through Friday are assigned equal weight and Saturday and Sunday receive zero weights, and, thus, the trading-day adjustment is based on this pattern. (There is no holiday adjustment in the assignment of daily weights.) The seasonal indexes for building permits shown in table A-2 include this trading-day adjustment.

## Mobile Home Shipments

Seasonal indexes for mobile home shipments are derived once a year; projected indexes are computed for the upcoming 12 months. Seasonal adjustment of mobile home shipments, beginning in November 1977, is based on shipments from July 1976 through December 1995, as reported by NCSBCS, and adjusted MHI shipments for the period January 1970 through June 1976. Seasonal adjustment of mobile home shipments for the period January 1976 through October 1977 is based on shipments from January 1959 through September 1977 that were provided by MHI, and included estimates for firms not associated with MHI. The seasonal indexes shown in table A-3 include trading-day adjustment factors which were estimated internally by the regression routine.

## Mobile Home Placements

Seasonal indexes are developed concurrently for each month for total mobile home placements and mobile homes on dealer lots. The seasonally adjusted U.S. total is the sum of the four regional components. The seasonal indexes shown in table A-3 include trading-day adjustment factors which were estimated internally by the regression routine.

**CENSUS BUREAU CONSTRUCTION REPORTS  
AND RELATED PUBLICATIONS**

Current Construction Reports, Series C21: *New Residential Construction in Selected Metropolitan Areas* (quarterly).

Current Construction Reports, Series C22: *Housing Completions* (monthly).

Current Construction Reports, Series C25: *New One-Family Houses Sold* (monthly).

Current Construction Reports, Series C30: *Value of New Construction Put in Place* (monthly).

Current Construction Reports, Series C50: *Expenditures for Residential Improvements and Repairs* (quarterly).

*Construction Review*: A quarterly publication of the International Trade Administration, U.S. Department of Commerce.

Table A-1. Seasonal Indexes Used to Adjust Housing Units Started

Period	United States implicit index <sup>1</sup>	In structures with—						All units			
		1 unit				2 to 4 units	5 units or more	North-east	Midwest	South	West
		North-east	Midwest	South	West						
<b>1994<sup>f</sup></b>											
January	71.9	55.2	51.4	78.5	77.4	67.3	85.1	61.8	53.4	83.3	80.4
February	75.0	49.2	52.2	85.5	83.0	68.5	76.2	53.3	53.3	84.8	80.7
March	103.0	89.8	95.6	111.6	109.7	99.8	88.9	90.5	95.6	111.2	105.4
April	112.7	113.6	118.7	114.4	108.4	121.2	106.4	111.0	115.8	113.5	110.1
May	117.0	118.1	127.1	113.9	116.7	106.5	114.1	119.5	126.7	115.2	114.8
June	116.2	128.5	129.9	110.8	116.2	130.0	102.2	129.1	128.2	106.5	114.0
July	106.6	115.6	118.2	101.6	105.5	110.2	99.0	111.4	113.5	103.2	107.9
August	115.7	114.0	122.2	109.0	120.9	109.4	119.8	119.1	124.5	105.9	118.0
September	105.9	111.4	112.6	101.9	101.6	103.5	110.1	108.2	111.2	101.8	103.8
October	108.1	115.6	116.7	100.5	100.5	101.5	119.6	117.4	119.6	102.1	103.6
November	90.1	101.4	88.7	89.1	81.9	107.8	92.8	96.6	93.4	89.4	82.0
December	81.2	89.2	67.7	84.4	79.0	76.9	87.0	82.4	66.6	85.0	79.6
<b>1995<sup>f</sup></b>											
January	73.3	55.0	52.7	79.0	79.6	63.6	86.2	60.2	53.3	83.6	81.4
February	73.9	48.0	50.8	85.4	82.7	67.9	75.8	54.0	52.0	84.2	80.8
March	99.9	88.4	94.4	109.6	106.2	101.8	84.3	88.1	92.2	106.8	101.1
April	109.8	111.1	113.8	111.1	106.1	115.4	105.8	109.8	113.4	112.1	109.2
May	119.6	120.3	130.5	116.9	118.5	111.4	118.0	121.4	128.5	117.5	116.0
June	114.5	128.4	129.0	110.2	115.9	131.8	98.3	129.5	127.0	105.1	114.2
July	105.8	115.4	118.3	101.8	105.0	110.0	100.1	113.0	115.7	104.8	109.0
August	116.1	114.1	122.6	108.7	121.1	107.4	121.1	120.1	127.1	107.0	119.0
September	106.6	113.3	113.2	101.9	102.6	104.6	111.8	110.4	111.5	102.2	104.4
October	109.6	118.1	120.1	102.1	102.7	100.5	120.4	117.9	121.0	102.4	104.9
November	88.6	99.0	87.6	87.9	80.8	111.5	92.3	94.7	93.4	89.2	80.8
December	79.3	86.5	66.1	83.4	76.9	73.9	84.6	78.6	64.9	83.1	76.7
<b>1996<sup>f</sup></b>											
January	75.3	55.6	53.9	80.4	81.8	62.9	87.1	59.1	53.4	84.7	82.6
February	75.7	49.5	51.6	88.2	85.4	70.8	79.5	57.3	53.4	87.7	85.2
March	97.4	86.4	92.0	106.8	102.7	98.4	82.4	87.6	90.8	104.9	98.9
April	115.6	117.4	119.1	117.1	112.5	118.6	110.7	115.1	118.0	116.8	114.4
May	117.0	117.2	126.7	114.1	115.3	112.5	116.2	117.6	124.2	114.4	112.1
June	111.3	125.3	124.9	107.0	111.9	127.8	95.4	128.3	124.9	103.5	113.5
July	110.6	120.0	124.0	105.9	110.0	113.7	102.2	114.8	118.6	106.7	110.7
August	114.2	112.1	121.0	107.4	118.9	104.3	119.0	118.9	126.3	106.5	117.5
September	105.0	111.3	111.4	99.5	101.4	103.0	110.6	109.9	109.8	100.4	103.3
October	111.6	120.7	122.7	103.7	104.4	103.8	121.3	120.0	122.8	103.7	107.2
November	90.0	99.4	89.0	88.5	80.5	117.6	94.5	93.7	95.9	90.1	79.7
December	82.5	86.3	68.0	86.4	79.5	73.2	90.3	79.6	68.6	87.3	80.4
<b>1997</b>											
January <sup>p</sup>	72.3	60.7	51.8	77.9	81.0	55.9	78.7	57.9	48.2	80.5	80.3

<sup>p</sup>Preliminary. <sup>f</sup>Revised.

<sup>1</sup>The implicit seasonal index is the ratio of the unadjusted number of housing units started in the United States to the seasonally adjusted national total of housing units started. It provides an indication of the overall seasonality for the particular month.

Note: These seasonal indexes include trading-day adjustment factors.



Table A-2. Seasonal Indexes Used to Adjust Housing Units Authorized in Permit-Issuing Places

Period	United States implicit index <sup>1</sup>	In structures with—						All units			
		1 unit				2 to 4 units	5 units or more	North-east	Midwest	South	West
		North-east	Midwest	South	West						
<b>1994</b>											
January	69.4	51.9	46.8	80.6	71.8	67.6	76.8	59.3	50.0	82.4	70.9
February	77.3	58.6	61.6	88.0	81.4	75.8	72.6	56.2	58.9	86.6	79.2
March	112.9	102.3	111.2	119.9	117.6	109.1	99.3	101.6	105.8	116.3	113.8
April	110.1	112.7	122.8	109.6	110.0	110.2	97.5	112.1	116.7	109.6	107.2
May	113.0	124.0	128.3	110.1	113.3	108.4	97.0	119.3	124.0	106.4	107.9
June	122.7	127.0	131.3	115.7	125.9	123.7	121.6	127.5	125.4	115.4	128.2
July	103.1	111.6	111.7	100.3	101.8	94.6	98.2	110.5	109.6	98.3	104.6
August	114.6	118.3	121.2	111.6	113.5	114.2	113.7	118.6	121.3	109.8	113.5
September	108.0	107.3	109.5	101.7	101.4	105.7	123.1	107.9	114.2	106.2	102.4
October	100.4	108.2	106.4	94.0	96.3	109.0	104.1	108.4	111.8	93.0	97.3
November	90.0	98.6	88.2	87.4	85.6	99.7	93.6	100.9	92.6	88.3	85.9
December	80.9	81.0	62.2	79.7	80.9	81.3	101.7	78.6	70.6	85.9	88.4
<b>1995</b>											
January	72.2	53.9	49.0	84.3	75.0	71.1	80.0	62.3	52.3	86.1	73.8
February	76.4	58.4	61.7	88.0	81.2	74.8	73.3	55.7	58.8	86.7	79.3
March	109.5	99.9	108.8	117.2	115.2	108.3	97.6	100.5	105.2	114.9	112.5
April	105.8	108.8	118.2	106.2	106.4	106.2	94.4	107.3	111.5	105.9	103.4
May	117.0	129.9	134.2	114.8	118.4	113.4	100.9	125.1	130.0	110.9	112.6
June	120.2	124.5	128.9	113.5	123.7	123.0	118.5	126.2	123.8	113.5	126.5
July	102.2	112.0	111.4	100.4	101.4	92.4	97.1	109.5	107.8	97.1	103.2
August	116.1	119.5	122.6	113.0	115.2	114.7	115.5	119.5	122.6	110.8	114.9
September	104.3	103.6	105.5	97.9	98.2	102.3	120.9	104.4	110.3	103.2	99.6
October	105.3	113.3	111.7	98.8	100.8	115.4	109.1	113.3	117.7	97.6	102.1
November	89.2	97.9	88.0	86.7	85.0	99.6	92.3	100.4	91.8	87.3	84.8
December	78.6	78.4	60.1	76.8	77.7	77.6	97.6	76.1	68.8	83.4	85.6
<b>1996</b>											
January	76.0	55.9	51.2	88.0	78.2	74.8	83.0	65.3	54.4	89.8	76.8
February	80.4	61.1	64.7	92.3	85.0	77.3	77.3	57.5	61.2	90.3	82.7
March	101.1	91.7	99.9	107.8	106.3	100.0	89.1	92.8	97.1	105.9	103.9
April	114.8	117.5	127.2	114.7	114.7	114.3	102.4	115.1	119.3	114.1	110.9
May	116.0	128.5	132.0	113.5	117.1	113.8	102.3	125.4	127.7	112.1	112.1
June	110.7	115.5	118.9	105.0	114.8	113.8	107.5	116.7	114.0	104.0	117.5
July	111.7	122.9	122.0	108.3	110.9	102.2	107.9	119.3	119.7	105.4	114.2
August	109.4	113.1	115.3	106.4	108.8	106.2	109.5	114.7	116.5	105.3	107.8
September	103.9	103.6	104.4	96.4	97.9	104.0	120.7	102.7	108.1	102.4	99.4
October	111.1	117.7	118.1	104.7	105.1	123.5	115.6	119.0	124.3	103.2	106.5
November	86.0	92.5	84.4	83.0	80.9	96.1	91.1	95.5	89.1	84.6	81.1
December <sup>r</sup>	84.4	82.1	65.8	81.6	82.3	78.2	103.4	79.5	72.5	87.4	88.0
<b>1997</b>											
January <sup>p</sup>	76.1	64.8	50.9	87.3	78.8	73.3	79.7	67.1	53.5	88.1	78.5

<sup>p</sup>Preliminary. <sup>r</sup>Revised.

<sup>1</sup>The implicit seasonal index is the ratio of the unadjusted number of housing units authorized by building permits in the United States to the seasonally adjusted national total of housing units authorized. It provides an indication of the overall seasonality for the particular month.

Note: These seasonal indexes include trading-day adjustment factors.

Table A-3. Seasonal Indexes Used to Adjust New Mobile Home Placements, Dealer's Inventories, and Manufacturers' Shipments

Period	New mobile homes placed for residential use					New mobile homes on dealer lots at end of period					Mobile home shipments <sup>2</sup>
	United States implicit index <sup>1</sup>	North-east	Midwest	South	West	United States implicit index <sup>1</sup>	North-east	Midwest	South	West	
<b>1994</b>											
January	65.4	47.8	47.8	74.7	68.8	101.8	93.8	97.3	104.1	99.8	84.7
February	77.0	55.1	55.1	85.3	78.0	104.8	98.6	105.3	104.0	104.9	88.4
March	95.2	74.3	74.3	105.1	94.7	104.8	103.6	107.8	104.2	107.7	107.2
April	101.0	90.8	90.8	105.5	98.7	105.8	108.7	109.7	102.9	108.7	100.9
May	111.2	116.1	116.1	108.5	113.9	103.2	104.7	107.7	100.4	106.1	104.9
June	118.2	127.7	127.7	117.0	110.2	100.8	105.2	105.9	99.1	103.2	111.8
July	103.8	117.0	117.0	98.7	105.7	96.0	100.7	98.4	94.4	98.2	88.9
August	119.6	131.3	131.3	114.3	121.3	95.2	102.4	96.1	95.1	94.2	115.1
September	107.2	120.0	120.0	103.8	103.4	95.8	97.2	94.8	96.1	92.8	107.8
October	109.6	126.0	126.0	102.6	115.9	95.0	96.7	93.3	97.0	91.6	106.7
November	97.0	104.9	104.9	94.5	97.3	97.8	96.0	91.0	99.9	94.5	98.3
December	87.2	87.7	87.7	86.3	91.1	99.0	92.1	91.7	101.8	96.9	82.4
<b>1995</b>											
January	69.0	48.8	48.8	76.7	69.1	100.8	93.6	97.4	103.9	99.2	89.4
February	77.2	55.8	55.8	85.4	78.6	103.6	98.5	105.3	104.0	105.2	88.6
March	98.4	78.4	78.4	106.8	95.3	105.0	103.5	106.9	104.6	108.7	107.4
April	99.6	89.4	89.4	102.5	98.6	106.0	108.9	110.6	103.0	108.4	96.4
May	111.4	113.4	113.4	110.4	113.4	102.8	104.5	107.2	100.8	105.9	108.4
June	120.4	129.7	129.7	119.1	110.3	101.8	105.0	106.3	98.6	104.1	111.3
July	105.6	118.9	118.9	100.7	105.2	95.6	100.6	98.8	93.9	98.1	88.1
August	117.6	128.8	128.8	112.3	121.5	95.6	102.1	97.1	95.1	94.3	116.5
September	103.2	114.2	114.2	98.2	103.8	95.2	97.3	93.6	96.2	92.2	102.1
October	112.0	126.0	126.0	106.6	116.3	95.2	97.2	93.5	96.8	91.3	111.9
November	98.8	109.5	109.5	95.9	97.4	98.0	95.9	91.4	100.1	95.5	99.9
December	85.2	88.5	88.5	83.2	90.3	99.0	92.3	90.8	101.9	96.1	78.2
<b>1996</b>											
January	70.2	48.9	48.9	77.3	69.3	101.0	93.7	96.4	103.3	98.5	93.2
February	83.0	59.2	59.2	92.5	84.2	108.2	102.1	109.3	108.0	109.7	94.2
March	95.8	76.5	76.5	101.9	97.6	104.2	102.3	105.5	103.8	107.1	98.1
April	104.8	90.6	90.6	111.6	96.0	104.6	108.7	110.4	102.6	108.1	104.5
May	113.2	118.4	118.4	110.9	112.6	103.2	103.9	109.5	100.8	106.4	109.8
June	113.2	124.1	124.1	109.4	111.7	100.8	103.6	105.7	99.0	103.0	100.8
July	105.4	117.4	117.4	101.3	103.2	95.8	100.4	99.3	94.5	97.5	95.4
August	116.2	132.8	132.8	108.6	120.0	96.2	101.1	97.2	96.2	95.0	111.5
September	105.2	117.9	117.9	100.0	106.7	96.4	96.9	94.3	96.7	93.2	101.6
October	111.0	122.1	122.1	107.4	114.8	96.2	98.5	94.3	97.5	93.1	118.7
November <sup>P</sup>	93.2	102.2	102.2	90.8	92.3	98.4	96.3	91.4	100.8	96.3	94.8
December	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	81.4
<b>1997</b>											
January	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	94.7
February	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	88.8
March	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	97.8
April	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	104.8
May	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	105.6
June	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	104.5
July	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	97.0
August	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	105.4
September	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	106.2
October	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	118.4
November	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	91.0
December	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	84.6

NA Not available. <sup>P</sup>Preliminary (does not apply to shipments).

<sup>1</sup>The implicit seasonal index is the ratio of the unadjusted United States estimate to the seasonally adjusted United States estimate. It provides an indication of the overall seasonality for the particular month.

<sup>2</sup>The seasonal indexes for mobile home shipments have been revised.

Note: These seasonal indexes include trading-day adjustment factors.

Table A-4. Average Percent Changes and Related Measures for Monthly Housing Starts and Permit Authorizations

Series	Average percentage change				Ratio of irregular component to cyclical component (I/C)	Number of months for cyclical dominance (MCD)
	Original series (O)	Seasonally adjusted series (C)	Irregular component (I)	Cyclical component (C)		
<b>HOUSING STARTS</b>						
<b>U.S. total</b> .....	<b>12.04</b>	<b>5.96</b>	<b>5.64</b>	<b>1.57</b>	<b>3.59</b>	<b>4</b>
Northeast .....	23.77	13.91	13.78	1.76	7.84	9
Midwest .....	24.95	12.52	12.27	1.56	7.85	9
South .....	11.51	7.57	7.36	1.82	4.05	4
West .....	13.54	9.47	9.02	2.17	4.16	4
1 unit						
Northeast .....	24.21	11.74	11.27	2.23	5.05	6
Midwest .....	25.71	11.92	11.72	1.56	7.52	8
South .....	11.26	7.03	6.72	1.66	4.05	4
West .....	13.62	8.93	8.33	2.14	3.89	4
2 to 4 units .....	26.68	21.41	21.41	2.36	9.08	12
5 units or more .....	20.70	17.00	16.75	2.31	7.26	7
<b>PERMIT AUTHORIZATIONS</b>						
<b>U.S. total</b> .....	<b>12.15</b>	<b>5.08</b>	<b>4.31</b>	<b>2.27</b>	<b>1.90</b>	<b>3</b>
Northeast .....	19.23	9.23	8.74	2.30	3.81	5
Midwest .....	21.98	8.26	7.51	2.78	2.70	4
South .....	10.56	6.20	5.61	2.40	2.34	3
West .....	13.34	7.61	6.73	2.79	2.41	3
1 unit						
Northeast .....	20.50	7.68	7.07	2.44	2.90	4
Midwest .....	22.94	6.91	5.81	2.82	2.06	3
South .....	11.19	5.22	4.46	2.25	1.98	3
West .....	12.54	6.62	5.69	2.64	2.16	3
2 to 4 units .....	14.60	8.56	7.85	2.45	3.20	4
5 units or more .....	17.21	10.70	10.04	2.98	3.37	4

Note: See page A-11 for definitions of the measures shown in this table.

Table A-5. Average Percent Changes and Related Measures for Monthly New Mobile Home Placements, Dealers' Inventories, and Manufacturers' Shipments

Series	Average percentage change				Ratio of irregular component to cyclical component (I/C)	Number of months for cyclical dominance (MCD)
	Original series (O)	Seasonally adjusted series (CI)	Irregular component (I)	Cyclical component (C)		
<b>NEW MOBILE HOMES PLACED FOR RESIDENTIAL USE</b>						
<b>U.S. total</b> .....	<b>12.00</b>	<b>6.04</b>	<b>5.96</b>	<b>0.86</b>	<b>6.90</b>	<b>7</b>
Northeast .....	22.55	10.89	10.81	1.02	10.63	12
Midwest .....	22.55	10.89	10.81	1.02	10.63	12
South .....	10.95	7.41	7.26	1.12	6.48	6
West .....	16.77	12.04	11.96	1.04	11.47	12
<b>NEW MOBILE HOMES ON DEALER LOTS AT END OF PERIOD</b>						
<b>U.S. total</b> .....	<b>2.33</b>	<b>1.80</b>	<b>1.32</b>	<b>1.12</b>	<b>1.18</b>	<b>2</b>
Northeast .....	5.42	3.93	3.41	1.51	2.26	3
Midwest .....	4.04	2.71	2.21	1.31	1.68	2
South .....	2.51	2.04	1.55	1.19	1.30	2
West .....	3.92	3.05	2.64	1.27	2.08	3
<b>MOBILE HOME SHIPMENTS</b>						
<b>U.S. total</b> .....	<b>11.24</b>	<b>2.27</b>	<b>1.55</b>	<b>1.35</b>	<b>1.15</b>	<b>2</b>

## Definitions of Summary Measures

The following are brief definitions of the measures shown here. More complete explanations appear in *Electronic Computers and Business Indicators* by Julius Shiskin, issued as Occasional Paper 57 by the National Bureau of Economic Research, 1957 (reprinted from the *Journal of Business*, October 1957).

'O' is the average month-to-month percentage change, without regard to sign, in the original series.

'CI' is the average month-to-month percentage change, without regard to sign, in the seasonally adjusted series.

'I' is the average month-to-month percentage change, without regard to sign, for the irregular component, which is obtained by dividing the cyclical component into the seasonally adjusted series.

'C' is the average month-to-month percentage change, without regard to sign, in the cyclical component. 'C' is a smooth, flexible moving average of the seasonally adjusted series.

'I/C' is the average month-to-month percentage change, without regard to sign, of the irregular component divided by the average month-to-month percentage change, without regard to sign, of the cyclical component. It serves as an indication of the series' relative smoothness (small values) or irregularity (large values).

MCD (months for cyclical dominance) gives an estimate of the appropriate time span over which to observe cyclical movement in a monthly series. In deriving MCD, the average (without regard to sign) percentage changes in the irregular and in the cyclical component are computed for 1-month spans (Jan.-Feb., Feb.-Mar., etc.), 2-month spans (Jan.-Mar., Feb.-Apr., etc.), up to 12-month spans. MCD is the shortest span for which the average change (without regard to sign) in the cyclical component is larger than the average change (without regard to sign) in the irregular component; thus, it indicates the point at which fluctuations begin to be more attributable to cyclical than to irregular movements. MCD is small for smooth series and large for erratic series.

## Appendix B.

# Monthly Revisions to Estimates

Each month the Census Bureau publishes preliminary estimates of Housing Starts and Building Permits. The Bureau releases these estimates to provide government and private data users with early measures of new privately owned residential construction activity. A necessary part of the process of issuing these early data involves the issuance of subsequent revisions. The revisions to monthly housing starts and building permit estimates are primarily the result of the replacement of imputed data with data which are reported in subsequent months.

For total housing starts, the range of the difference between the last 12 preliminary and first revision estimates for the same months was from -0.92 percent to 1.88 percent, with a median of 0.14 percent. The range of the difference between preliminary and final estimates was from -1.85 percent to 3.07 percent, with a median of 0.68 percent. The preliminary-to-final difference for total building permits over the last 12 months ranged from -2.37 percent to 2.15 percent, with a median of 0.21 percent.

### Analysis of Revisions to Monthly Seasonally Adjusted Estimates of Housing Starts and Building Permits

Series	Percent changes between estimates— last 12 months					
	First revision versus preliminary			Final versus preliminary		
	Range		Median	Range		Median
	From	To		From	To	
<b>HOUSING STARTS</b>						
<b>U.S. total</b> .....	<b>-0.92</b>	<b>1.88</b>	<b>0.14</b>	<b>-1.85</b>	<b>3.07</b>	<b>0.68</b>
In structures with—						
1 unit.....	-1.96	1.22	0.43	-2.66	1.78	1.11
2 to 4 units .....	-32.26	26.83	9.90	-35.48	26.47	11.81
5 units or more .....	-7.52	5.96	0.59	-5.64	8.37	1.35
Northeast.....	-2.29	5.51	0.00	-3.62	6.30	0.00
Midwest.....	-4.91	6.87	0.00	-3.76	8.93	-0.29
South.....	-1.42	1.91	0.46	-1.47	3.05	0.46
West.....	-2.12	3.24	0.90	-2.29	3.09	0.56
<b>BUILDING PERMITS<sup>1</sup></b>						
<b>U.S. total</b> .....	<b>-2.37</b>	<b>2.15</b>	<b>0.21</b>	<b>-2.37</b>	<b>2.15</b>	<b>0.21</b>
In structures with—						
1 unit.....	-4.53	3.27	0.28	-4.53	3.27	0.28
2 to 4 units .....	-5.80	5.63	-1.45	-5.80	5.63	-1.45
5 units or more .....	-4.76	9.20	0.93	-4.76	9.20	0.93
Northeast.....	-8.15	11.29	-0.74	-8.15	11.29	-0.74
Midwest.....	-5.10	4.89	-0.87	-5.10	4.89	-0.87
South.....	-6.97	5.52	0.94	-6.97	5.52	0.94
West.....	-1.57	3.99	0.61	-1.57	3.99	0.61

<sup>1</sup>For the building permit series, the first revision is the final estimate.